

Applicants respectfully traverse these rejections in view of the following comments.

Discussion of the Present Invention

Pending claim 1 is drawn to an inductive sensor comprising:

- at least one sensor coil in the form of a structured, conductive layer of a carrier board;
- an evaluation circuit comprising a printed circuit board with conductor tracks provided thereon and being connected to the sensor coil;
- wherein the carrier board carrying the sensor coil is mechanically rigidly and electrically connected to the printed circuit board by at least two soldered joints.

The two soldered joints of the present invention are adequate to not only connect the sensor coil electrically to the printed circuit board, but also to simultaneously establish a mechanical connection between the carrier board carrying the sensor coil (which is a flat coil in the form of a structured, conductive layer) and the printed circuit board. Thus, the sensor coil and the printed circuit board form a unit for joint handling and insertion into a sensor housing in the course of a further manufacturing process (see, e.g., Applicants' specification, page 2, second paragraph).

With Applicants' invention, considerable cost advantages are achieved since there is no longer any need for flexible electrical lines to be individually handled

and soldered or for a sensor coil and printed circuit board to be mechanically positioned. In accordance with the present invention, an electrical connection is simultaneously made by at least two mechanically rigid soldered joints.

Discussion of Geisel

Geisel discloses a metal detector apparatus comprising a coil, a circuit board, and detection circuitry mounted to the circuit board (Col. 12, lines 49-52).

The elongated circuit board 118 of Geisel has an elongated coil 200 (Col. 4, line 63; Figures 3-6). The elongated coil is etched on the top surface 122 of the circuit board 118 (Col. 4, lines 61-64).

Therefore, in Geisel, the carrier of the coil 200 is the circuit board 118. In contrast, with the present invention, a carrier board for the sensor coil is provided and in addition a circuit board is provided for an evaluation circuit. With the present invention, the carrier board for the sensor coil and the circuit board for the evaluation circuit are separate entities and therefore have to be connected.

In accordance with Applicants' claimed invention, the soldered joints establish both an electrical connection and a mechanical connection between the carrier board and the circuit board. Since Geisel does not employ a separate carrier board for the coil and circuit board for the evaluation circuit, the problem of a mechanical and electrical connection between such a carrier board and separate circuit board does not arise.

Geisel does not disclose or remotely suggest a carrier board which carries the sensor coil and a separate printed circuit board for an evaluation circuit connected to the sensor coil, as claimed by Applicants. Geisel further does not disclose or remotely suggest that that the carrier board is mechanically rigidly and electrically connected to the printed circuit board by at least two soldered joints, as set forth in Applicants' claims.

Applicants respectfully submit that the present invention would not have been obvious to one skilled in the art in view of Geisel, taken alone or in combination with any of the other prior art of record.

Further remarks regarding the asserted relationship between Applicants' claims and the prior art are not deemed necessary, in view of the foregoing discussion. Applicants' silence as to any of the Examiner's comments is not indicative of an acquiescence to the stated grounds of rejection.

Withdrawal of the rejections under 35 U.S.C. § 103(a) is therefore respectfully requested.